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ABSTRACT

This action plan provides information on improving the quality of education offered to teachers and school leaders, reporting the results of a task force study which found that: student success depends mainly on teacher quality; the essential competencies of effective teachers are command of the subject, preparation in effective pedagogical practice, and high overall academic performance; strong and effective teacher education programs share many common characteristics; the academic capacity of graduates who enter teaching is comparable to that of college graduates overall for prospective secondary teachers, but below average for prospective elementary teachers; teachers are inadequately prepared to understand and apply technology to teaching; current mechanisms of academic quality control are inadequate to ensure that only fully qualified teachers enter teaching; there is an opportunity to transform teacher quality with the hiring of at least 2.5 million teachers in the next decade; special efforts are needed to address shortages in high poverty schools, special needs programs, and the sciences, and among minority teachers; and demand for new teachers can be reduced significantly by reducing teacher attrition. Two appendixes present the American Association for State Colleges and Universities' "A Call for Teacher Education Reform" and the American Association of Universities' "Resolution on Teacher Education." Appended to the main report is "Touching the Future: Final Report" (Charles Coffin, 2002). (Contains 59 references.) (SM)

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To Touch the Future

Transforming the Way Teachers Are Taught

An Action Agenda for College and University Presidents

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To Touch the Future

Transforming the Way Teachers Are Taught

An Action Agenda for College and University Presidents

American Council on Education

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ACE Fulfillment Service
Department 191
Washington, DC 20055-0191

ACE Presidents' Task Force on Teacher Education

Karen Adams
Dean of the College of Education and Behavioral Sciences
Western Kentucky University

James Appleberry
President
American Association of State Colleges and Universities

Mary Beth Blegen
Teacher-in-Residence
US Department of Education

George R. Boggs
Superintendent/President
Palomar Community College District

Jerry M. Boone
President
Ferrum College

Clinton Bristow, Jr.
President
Alcorn State University

Betty Castor
President
University of South Florida

Wilmer Cody
Commissioner of Education
Kentucky Department of Education

Mary Sue Coleman
President
University of Iowa

Margaret Cozzens
Vice Chancellor for Academic & Student Affairs
University of Colorado at Denver

Constantine Curris
President
Clemson University
(effective October 1, 1999; President, American Association of State Colleges and Universities)

Howard Daudistel
Dean of the College of Liberal Arts
University of Texas at El Paso

James England
Program Officer
Pew Charitable Trusts

Peter Facione
Dean of the College of Arts & Sciences
Santa Clara University

Allen Glenn
Dean of Education
University of Washington-Seattle

Nils Hasselmo
President
Association of American Universities

Gerry House
Superintendent
Memphis School District

Stanley O. Ikenberry
President
American Council on Education

David Imig
Chief Executive Officer
American Association of Colleges for Teacher Education

Donald Langenberg
Chancellor
University of Maryland System

Arthur Levine
President
Teachers College of Columbia University

Shirley A. R. Lewis
President
Paine College

C. Peter Magrath
President
National Association of State Universities and Land-Grant Colleges

Margaret McKenna
President
Lesley College

Daniel Moriarty
President
Portland Community College

Thomas Payzant
Superintendent
Boston Public School District

David Pierce
President and CEO
American Association of Community Colleges

Stephen Portch
Chancellor
University System of Georgia

Charles Reed
Chancellor
The California State University System

William Robinson
President
Whitworth College

Charles Ruch
President
Boise State University

Ted Sanders, Task Force Chair
President
Southern Illinois University

Lou Anna K. Simon
Provost and Vice President of Academic Affairs
Michigan State University

L. Dennis Smith
President
University of Nebraska

David Warren
President
National Association of Independent Colleges and Universities

Joe B. Wyatt
Chancellor
Vanderbilt University

Staff and Consultants

Michael A. Baer
Senior Vice-President
Division of Programs and Analysis
American Council on Education

Charles Coffin
Editorial Consultant

Daniel Fallon
Professor
Psychology and Public Affairs
University of Maryland

David Imig
Chief Executive Officer
American Association of Colleges for Teacher Education

Patricia A. Maloney
Assistant Director
Center for Policy Analysis
American Council on Education

Andrew Wayne
Research Assistant
University of Maryland

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Foreword

In November 1998, the American Council on Education, in collaboration with the American Association of Colleges for Teacher Education, appointed a Presidents' Task Force on Teacher Education. Composed of college and university presidents and school leaders, its charge was formidable: to equip college and university presidents to lead the nation's campuses in a major improvement in the quality of education provided to teachers and school leaders.

The action plan set forth by the Task Force is founded on three powerful premises:

- The quality of schooling in America is inadequate for the times.
- Strengthening the way colleges and universities prepare teachers is a central element in improving the nation's schools.
- Decisive action by college and university presidents is essential if American higher education is to fulfill its responsibilities.

One more premise must be cited: There is an unprecedented opportunity. During the next 10 years, some 2.5 million new teachers will be employed to replace retiring teachers, meet growing school enrollments, lower class size, and replace teachers who have left. The opportunity to transform schools by improving the quality of new teachers has never been as great.

For nearly a year, the Task Force, with generous support from the Carnegie Corporation of New York and The Ford Foundation, worked to assemble evidence on teacher performance, best practice, the quality of students entering teacher education programs, teacher demand, and a host of other questions. It commissioned papers and met with scholars and experts in the field. The Task Force met with Secretary of Education Richard Riley to define and probe the issues. The Task Force also was informed by the work of other presidents who already had addressed many of these same issues. It drew on a resolution adopted by the presidents of the

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American Association of Universities, as well as a report issued by the American Association of State Colleges and Universities. Copies of both are included as appendices. The leadership of these two associations, as well as those of the American Association of Community Colleges, the National Association of Independent Colleges and Universities, and the National Association of State Universities and Land-Grant Colleges, served on the Task Force and contributed greatly to our efforts.

Throughout this report, we refer to "teachers" and the education of "teachers." The focus, indeed, is on teachers. Still, the preparation of school leaders and administrators, counselors, and other professionals who serve the nation's schools also is crucial and the Task Force urges that colleges and universities give comparable attention to the quality of these programs as well.

A final word regarding the intended audience of *To Touch the Future*: From the beginning, the mission of the Task Force has been to place the education of teachers at the center of the professional and institutional agendas of college and university presidents and their institutions. While we speak to presidents, however, we also speak to faculties, and to academic deans and provosts without whom no change will be possible. And we speak to members of governing boards who, in the final analysis, must stand accountable. The report is written for policy makers at the federal and state level, for business leaders and members of the media, and for all Americans whose future is shaped by the quality of the nation's schools.

The challenge to improve the education of teachers and to strengthen the nation' schools will not be met with the issuance of a report. Had that been possible, concern about the quality of schooling in America would have concluded with the issuance of *A Nation at Risk* more than 15 years ago. It is our hope that this report, *To Touch the Future*, will spark a continuing conversation and serve as a down payment for an energized, long-term commitment by college and university leaders to work with others to ensure that America and its children will have the schools they require and deserve.

Introduction

In 1985, Sharon Christa Corrigan McAuliffe, a gifted and popular schoolteacher, was selected as the primary candidate for the NASA Teacher in Space project. When asked why she wanted to take part in the project, she responded directly and authentically, "Don't you understand? I am a teacher. Every day, through my students, I touch the future."

Since her death in the Challenger disaster of 1986, Christa McAuliffe's answer to that question has served to remind us of the power of good teaching. If teachers "touch the future," so do institutions that educate teachers and the chief executives who lead them. In this report, we call on colleges and universities to transform dramatically the way they educate teachers. In doing so, higher education will strengthen its capacity to touch the future.

With each passing decade, education has become more critical to economic and social survival. For many years, a widespread consensus has held that the nation's schools can and must serve better the citizens of our democracy and that the quality of teaching is not what it could or should be. Access to high-quality education ranks at the top of the concerns of the American public.

Concern about the quality of the nation's elementary and secondary schools is especially intense. Recently, public attention has shifted to the quality of teachers entering and serving the schools. This report makes the case that the teaching of teachers must improve. Just as important, the schools themselves and the conditions for teaching must change in fundamental ways to attract, retain, and empower productive teachers. The two transformations go hand in hand.

Persuasive new research, when combined with past findings, leads to two inevitable and clear conclusions: First, teachers exert a singularly powerful influence on the academic performance of students; and second, some teachers are consistently more effective than others. These conclusions, above

all others, underscore the importance of higher education to the effectiveness of schools. The education that colleges and universities provide to teachers is crucial in determining the quality of America's schools.

Colleges and universities by themselves are not in a position to remedy all the shortcomings of the nation's schools. But they can do more–much more–to strengthen the performance of teachers. If civic responsibility alone is insufficient to lead presidents, governing boards, and faculties to sharpen their focus on the quality of teacher education, academic self-interest demands that they do so. For if the teachers we prepare are less prepared than they should be and the schools fail, colleges and universities will be drained of their very lifeblood–high-achieving, well-prepared entering college students.

The public expects colleges and universities to prepare teachers who are knowledgeable about *what* they teach and proficient in *how* they teach. College presidents must take the lead in fulfilling this expectation. America seeks teachers who are committed to ensuring that all students learn to their full potential. Presidents must respond by putting teacher education front and center on their personal and institutional agendas.

Increasingly, as test scores of teacher education graduates become public and command media attention–as they did in Massachusetts in 1998–policy makers', opinion leaders', and the public's judgment of colleges and universities will be shaped in significant measure by the teachers they prepare.

Crafting a vision of academic excellence that encompasses the full range of formal education–from preschool through graduate school–is a presidential opportunity that calls for strong and creative leadership.

During the early days of the Republic, Thomas Jefferson wrote to one of his many correspondents, "If a nation expects to be ignorant and free, in a state of civilization, it expects what never was and never will be." For generations since, America has accorded high value to the education of its citizens.

America, however, has entered a new era. This nation will begin a new century with an economy that depends far more than ever before on knowledge–its acquisition, analysis, synthesis, communication, and application–for the creation of wealth and well-being. The quality of teaching in our schools must match our dreams and aspirations as a nation. If college and university presidents can lead a successful effort to raise the quality of teachers in the nation's schools, we will be keeping pace in our time with Jefferson's measure of truly free citizens of a civilized nation.

Findings

1 *The success of the student depends most of all on the quality of the teacher.*

We know from empirical data what our intuition has always told us: Teachers make a difference. We now know that teachers make *the* difference.

The growth of widespread mandatory testing in the public schools over the last two decades offers a broad database with which to measure the relationship between teacher quality and student performance and to assess the influence of many variables on student achievement. The evidence of these data is clear and convincing: The single factor that is more powerful than any other in influencing student achievement gains is the quality of the teacher.

Researchers Rivkin, Hanushek, and Kain (1998), for example, demonstrated in a Texas study that the influence of teachers on student achievement is many times greater than any other commonly observed variable. Sanders and Rivers (1996) reported astonishingly large effects of the influence of teachers. Their data from Tennessee show that two equally performing second graders can be separated by as many as 50 percentile points by the time they reach fifth grade, solely as a result of being taught by different teachers. Similar and supportive results have been obtained by other scholars (e.g., Jordan, Mendro, and Weerasinghe, 1997).

2 *The essential competencies of an effective teacher are command of subject, preparation in effective pedagogical practice, and high overall academic performance.*

Although further research is needed to identify specific teacher characteristics that are correlated with gains in student achievement, we know now that the success of the student depends heavily on the quality of the teacher. And we know now that the quality of the teacher is *the* key to improved student performance, regardless of the condition of the

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schools, the affluence of the child, the nature of the community, or any other element in the lives or educational environment of school children.

A thorough grounding in college-level subject matter and professional competence in pedagogical practice are necessary for good teaching. Effective teachers explain content to their students from different perspectives, respond accurately to their questions, plan lessons intelligently, qualify assertions appropriately, and choose wisely what to include, exclude, and emphasize in the curriculum (Shulman, 1987). Virtually all who have examined the education of prospective teachers have stressed that more attention must be given to the education provided by subject-matter faculty (Rennert-Ariev and Valli, 1999). Some national reform groups, such as The Project 30 Alliance and the standards-based Teacher Education Project, have been founded on precisely this principle (American Association of Colleges for Teacher Education, 1999; Murray and Fallon, 1989).

Although the evidence that links student achievement to subject matter understanding in teachers is incomplete, the data in mathematics are unequivocal: students learn more mathematics when their teachers report having taken more mathematics. Earning a college degree related to mathematics, holding certification in mathematics, and demonstrating mathematics skill all contribute to effective teaching of mathematics (Monk, 1994; Goldhaber and Brewer, 1997, 1999; Rowan et al., 1997). It would not be surprising to learn that similar correlations exist in other disciplines.

The evidence also indicates that teachers who themselves performed well as students also perform better as teachers. Schoolchildren whose teachers have higher reading proficiency, for example, learn more than pupils whose teachers have weak reading proficiency (Ferguson and Ladd, 1996; Ferguson, 1998). Studies also indicate that broad academic quality measures contributed to successful teaching (Ehrenberg and Brewer, 1994; Winkler, 1975). Therefore, the quality of students who are admitted to teacher education programs and recruited to the profession is a critical determinant of success in the classroom.

There is another reason why some teachers are more effective than others. Research indicates that the best teachers know not only *what* to teach but also *how* to teach. Like specialists who interpret medical X-rays, expert teachers can describe important classroom events and changes that others miss. Expert teachers also employ classroom routines that permit them simultaneously to manage student behavior and to focus on students' minute-to-minute learning (Berliner, 1994). These findings underscore the value of clinical practice in preparing effective teachers, and teachers themselves stress how important this is. When asked to rate the relative usefulness of particular program elements, teachers cited student teaching as most useful (Kennedy, 1991, 1999).

Competent professional knowledge about teaching–pedagogical methods, curriculum design, adolescent development, student cognition and learning, and classroom management–also characterizes the successful teacher. Although the several components of professional knowledge

have not yet been linked to individual student achievement gain in research studies, a strong case for the value of professional preparation can be made using evidence from classroom observations, teachers' expressed concerns, and student achievement analyses that do not control for prior test scores (Darling-Hammond, 1998). Student achievement gains have been clearly shown to depend on the subject-specific pedagogy learned by the teacher. In mathematics, students learn more from teachers who have taken mathematics education courses and hold mathematics certification (Monk, 1994; Goldhaber and Brewer, 1999). Future data likely will confirm similar patterns for other subjects.

Command of the subject matter that will be taught, high overall academic performance, and sound professional knowledge, then, are the three essential competencies of effective teachers.

3 *Strong and effective teacher education programs share common characteristics.*

The National Commission on Teaching and America's Future (1997) stated that the most important features for ensuring high-quality outcomes for teacher education, regardless of the length of the program, are: (a) a common vision of good teaching that is apparent in all coursework and clinical experience; (b) well-defined standards of practice and performance that guide and measure courses and clinical work; (c) a rigorous core curriculum; (d) extensive use of problem-based methods, including case studies, research on teaching issues, performance assessments, and portfolio evaluation; and (e) strong relationships with reform-minded local schools that support the development of common knowledge and shared beliefs among school and university faculty.

A review commissioned by this Task Force (Scannell, 1999) found that other characteristics of successful programs include: (a) arts and sciences faculty and education faculty have developed an effective way to combine their contributions; (b) the program is supported by the central administration of the institution and by school leaders in the community; (c) applicants seeking to become teachers are admitted through a thoughtfully designed process of matriculation; (d) graduates of teacher education programs are carefully guided into and supported in a community of teachers and learners, not just cut adrift after graduation; (e) program elements–especially subject matter learning and clinical training–are tightly articulated, with practice coupled to theory; and (f) program quality and outcomes are carefully, independently, and continuously assessed.

There are multiple educational routes to a teaching career today. The four-year undergraduate degree continues to be the most common, but some campuses now require a fifth year to add teacher preparation to a liberal arts major. However, states increasingly are mandating a master's degree for teachers, which requires a year or two of study beyond the baccalaureate. At the same time, there also are a growing

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number of nontraditional programs of varying length that are targeted at specific populations such as paraprofessionals, career changers, or adults reentering the job market.

We are aware of many of the attributes shared by programs that prepare high-quality teachers. However, we need more experimentation and innovation in crafting programs for the education of teachers. Above all, we need reliable evaluation of the links between program design and performance of graduates in the classroom. Indeed, we need to know much more. Still, one conclusion is clear: Teachers require more and better preparation than ever before.

Colleges and universities need to intensify their efforts to recruit into the teaching profession the ablest of America's college students and to set high standards for admission into teacher education programs.

4 *The academic capacity of graduates who enter teaching is comparable to that of college graduates overall for prospective secondary school teachers, but below average for prospective elementary school teachers.*

In 1992-93, the National Center for Education Statistics (NCES) inventoried the college entrance examination scores and college transcripts of more than 10,000 college graduates nationwide whose career progress is being followed for 12 years. An analysis of these data indicates that students who became secondary school teachers had academic records comparable to the group as a whole. Those who became elementary school teachers, however, enrolled in more remedial classes in college than other students, scored less well on standardized aptitude tests, and took less challenging courses (Henke et al., 1996). The Educational Testing Service found a similar pattern of lower test scores among elementary school teachers when it compared the SAT scores of all college graduates to the scores of those passing the state licensure subject assessments test called Praxis II (Educational Testing Service, 1999a). The 1992 National Adult Literacy Survey, however, showed that literacy skills of teachers were indistinguishable from those of other college-educated adults (Educational Testing Service, 1999b).

The research data reveal that entrance requirements for prospective elementary school teachers are generally lower than for other future teachers. Recent international test results showed, however, that American fourth graders performed better than their peers in other nations in mathematics and science, while American secondary school students demonstrated substantial deficiencies in relation to their peers from other countries (NCES, 1999c). How or whether the achievement scores of students in the earlier grades relate to the academic performance of the students' teachers is unclear. It would be useful to have evidence on the importance of attributes such as motivation, dedication, and a passion for children and learning as we assess the qualities that teachers need in the primary grades. However, it is clear that colleges and universities need to intensify their efforts to recruit into the teaching profession the ablest of America's college students and to set high standards for admission into teacher education programs.

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5 *Teachers are inadequately prepared to understand and apply technology to teaching.*

In 1994, the U.S. government set a goal of connecting every school in the country to the Internet. At last count, 89 percent of public schools and 51 percent of public school classrooms had Internet connections. In 1998, the nation's public schools owned one instructional computer for every six students (NCES, 1999d). A recent survey, however, found that only one-quarter of the teachers responding reported using current technology in a substantial way in their classrooms (NCES, 1999b); only one in five said he or she felt very well-prepared to integrate technology into teaching (NCES, 1999a).

Continuing education and in-service training often are used by school systems to help teachers who are not computer literate gain the skills and comfort level they need to teach with and about technology. When asked what knowledge they need most, teachers placed the highest priority on information about using innovative technologies (NCES, 1999b). Most said that they had received some in-service training, but that it was too brief to be very helpful. Even among those who had spent more than eight hours in training, only a third said it improved their use of technology "a lot." (NCES, 1999a).

Almost all students in teacher education programs take at least one course that integrates computer use into the syllabus, but a full one-third of teacher education program leaders reported that their computer facilities were inadequate to the task of teaching prospective teachers how to use computers for learning (CEO Forum on Education and Technology, 1999).

As of 1998, only two states had developed standards for teacher technology preparation and required candidates for teaching positions to complete a portfolio to demonstrate their technology skills (CEO Forum on Education and Technology, 1999).

6 *Current mechanisms of academic quality control—at colleges and universities, in schools and school systems, and in state laws and regulations—are inadequate to ensure that only fully qualified teachers enter the profession.*

Measures for assessing the quality and competence of graduates of teacher education programs and for assessing the quality of the programs themselves fall woefully short of accomplishing their objective. Variations in licensure standards among the states are as numerous as the variations in quality and minimum standards among the nation's 1,200 programs of teacher education.

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A pervasive criticism of teacher licensure tests is that they require no more knowledge than would be expected of high school graduates (Mitchell & Barth, 1999). As states work to craft more relevant and demanding examinations for prospective teachers, a number of performance-based licensure requirements are emerging, such as examination of portfolios and videotaped teaching sessions; internships similar to those required for licensure in medicine; standardized observations of classroom practice; and assessment of student work samples (Sykes, 1999). But even where adopted, such requirements address only a part of the quality control issue.

The fact that the nation's schools will need to hire 2.5 million teachers over the next 10 years (Hussar, 1999) provides an unequaled opportunity to transform the quality of teachers serving the nation's schools.

Academic quality controls within teacher education programs themselves often are inadequate. Not only do many programs lack regular and reliable internal assessments, but too few submit themselves to rigorous, periodic third-party evaluations, through accreditation or comparable external review.

7. *There is an opportunity to transform the quality of teachers in American schools with the hiring of at least 2.5 million teachers in the next decade.*

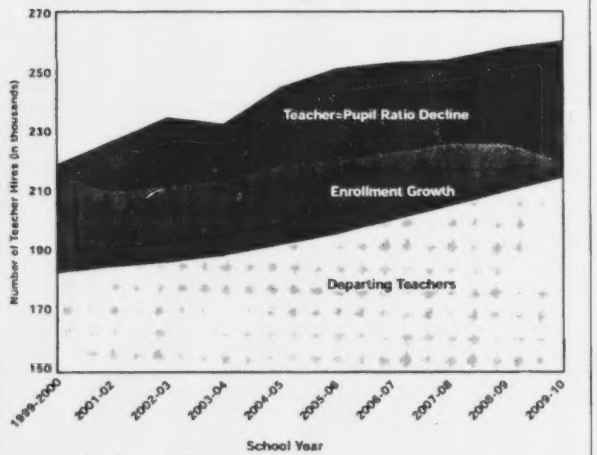
The teaching force will change dramatically over the next 10 years. The fact that the nation's schools will need to hire 2.5 million teachers over the next 10 years (Hussar, 1999) provides an unequaled opportunity to transform the quality of teachers serving the nation's schools. The supply of teachers will vary considerably from region to region. A particular need for more teachers than are currently being prepared exists in specific subject fields, including science, mathematics, and special needs.

In the next decade, annual hiring is projected to grow by 20 percent, up from 218,000 positions filled in 1999-2000 to 261,000 positions filled in 2009-2010 (Figure 1). The U.S. Department of Education's projection is based on three variables: (1) the annual hiring needed to replace retirees and other departing teachers; (2) projected enrollment increases based on school-age population increases; and (3) teacher-pupil ratio declines similar to those of previous years.

Departing teachers account for most of the increased hiring needs. Nationwide, about 6 percent of public school teachers now leave teaching each year (NCES, 1997a). Beginning teachers and retirement-age teachers are much more likely to leave than are mid-career teachers. Over the past several years, the proportions of teachers occupying these two ends of the teacher experience profile have been increasing (Grissmer and Kirby, 1997). Therefore, the number of teachers on the brink of retirement will substantially exceed past levels. All told, about 700,000 retirements will occur over the next 10 years, accounting for 28 percent of hiring needs (Hussar, 1999).

Figure 1

Projected Annual Teacher Hiring Needs Through 2009-10



Source: Gerald and Hussar, 1999

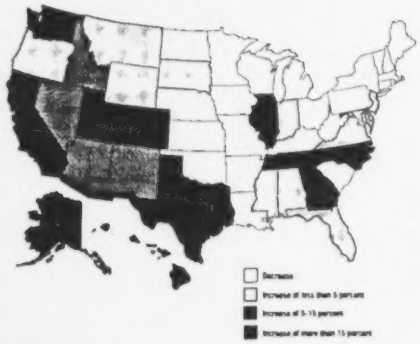
Enrollment growth, on the other hand, will diminish as the decade progresses, having virtually no effect on hiring needs by 2009, although that growth–and the consequent demand–will vary considerably from state to state (Figure 2).

Given new federal incentives and the trend in a handful of states toward aggressive reduction in class size, the Department of Education's projections of teacher-student ratios probably underestimate the demand for teachers. For example, California's first year of class size reduction in 1996 triggered the hiring of 19,000 elementary school teachers beyond the 16,000 already needed because of teacher attrition and student enrollment growth (Shields, et al., 1998).

Underestimates also arise because analysts count many persons without qualifications as teachers. Too often, the remedy for securing additional teachers to meet classroom demand is to employ marginally qualified teachers. In 1991, the most recent year for which careful analysis is available, almost one-quarter of all new teachers hired lacked standard certification. Although many teaching under "emergency certification" are otherwise acceptable teachers who lack some specific requirements, at least 275,000 teachers are employed in the nation's classrooms without adequate preparation in course content, without having graduated from a teacher education program, or without a state license (Henke et al., 1997; NCES, 1999a). Some states already have adopted policies prohibiting or limiting employment of less than fully

Figure 2

Projected Percent Change in Grades K-12 Enrollment in Public Schools, by State: Fall 1997 to Fall 2009



Source: Gerald and Hussar, 1999

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Figure 3

Percentage Distribution of Newly Hired Public School Teachers, by Supply Source, 1990-91.

Supply Source	Percentage
Newly prepared	33.8%
Reentrants	30.5%
Delayed entrants	19.4%
Transfers	16.3%

SOURCE: Rollefson and Broughman, 1995.

If colleges and universities encouraged more teacher education students to work in the field for which they were educated, the unmet demand could be substantially reduced.

qualified teachers. If all states were to do so, the 2.5 million figure in the Department of Education's projection would rise to at least 2.75 million.

Currently, only about two-thirds of newly prepared teachers enter the profession immediately after graduation (Henke, et al, 1996). For that reason, returning teachers and delayed entrants together fill more openings than newly prepared teachers (Figure 3). If all graduates of teacher education programs entered the field, these new entrants alone would meet most of the demand for teachers. It is clear, therefore, that if colleges and universities encouraged more teacher education students to work in the field for which they were educated, the unmet demand could be substantially reduced.

As public policy makers work simultaneously to increase the numbers of schoolteachers and to strengthen their quality, the highest priority should be accorded to creating incentives that will retain well-qualified, high-performing teachers and to replacing teachers who do not have the preparation or qualifications essential to meet minimum standards.

8 *Special effort and further incentives will be needed to address shortages in high-poverty schools, in special needs programs, in the sciences, and among minority teachers.*

Most teachers avoid teaching in high-poverty schools. Many fully prepared graduates serve as substitutes in more affluent districts, or work outside education until the job they want becomes available, rather than taking positions in less affluent schools. High-poverty schools, whether inner-city or rural, also have the largest number of unqualified teachers. Most dramatically, 70 percent of seventh through 12th graders in these schools were recently being taught physical science by unqualified teachers. In the nation's schools as a whole, the figure is still high at 56 percent, but it is significantly lower than in the less wealthy schools. (NCES, 1996c).

The inherent difficulties and emotional toll associated with teaching students with special needs lead to attrition rates for special education teachers that exceed those for general teachers by about one-third, and more continuing teachers transfer

out of special education than into special education (Boe et al., 1997). One-third of entering special education teachers lack standard certification for their assignments, as do 10 percent of all practicing special education teachers (Boe et al., 1998).

Competing wage prospects drive shortages in the sciences. College graduates with degrees in mathematics, chemistry, physics, or computer science earn considerably more than education majors (NCES, 1997b). As a result, secondary school students in mathematics and science classes are much less likely to have teachers with sufficient subject preparation than are those in other subject matter classes.

Finally, despite general agreement that the teaching force should mirror the nation's ethnic and racial diversity, only 13 percent of all teachers are nonwhite. Students in the nation's schools, by contrast, are one-third minority (Henke et al., 1997). This problem has two sources, according to the most recent available data. First, nonwhites constitute just 17 percent of each year's pool of college graduates, only about half the proportion of minorities in the schools. Second, while about 8 percent of white college graduates have gone into teaching immediately, only 6 percent of nonwhite college graduates have done so (Henke et al., 1996). There clearly is an unmet national challenge to enroll more minority students in college and to recruit minority students into the teaching profession.

9 *Demand for new teachers can be reduced significantly by reducing teacher attrition.*

Each year, thousands of fully prepared young teachers leave their classrooms to pursue other options. At best, five years after graduation, only half of these teachers will remain in teaching, according to patterns observed in 1994 (Henke, et al., 1996; NCES, 1997c). Some leave shortly after beginning as teachers, and many never enter teaching at all. Reducing teacher attrition would lessen the pressure to hire new teachers.

There clearly is an unmet national challenge to enroll more minority students in college and to recruit minority students into the teaching profession.

Systematic efforts to support beginning teachers, often called "induction" programs, can improve retention and develop skills. Early pilot programs in California reduced attrition by two-thirds at sites where time was set aside for interaction between a beginning teacher and a mentor, where in-service training was tailored to beginning teachers, and where mentor skills were carefully developed (Gold, 1996). California and other states have put in place incentives to initiate such programs, often involving university collaboration. In a recent survey, schools with lower teacher attrition rates had a higher proportion of teachers who agreed with the statement "this school is effective in assisting new teachers" than did higher attrition schools. Where average agreement with the statement was high, the probability of departure dropped by about 10 percent (Ingersoll, 1999).

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10 *The professional environment in which teachers work is inadequate to attract and retain enough high quality individuals to meet demand.*

Many schools do not offer sufficiently amenable, competitive work settings to attract and retain highly qualified teachers.

One of the key determinants of the attractiveness of a career for new college graduates is the starting salary they can expect to command and the opportunities for salary advancement in the future. Salaries paid to education graduates compare poorly with salaries offered to their classmates in other majors (Figure 4). The differential is upwards of 50 percent in many cases.

Similarly, many schools do not offer sufficiently amenable, competitive work settings to attract and retain highly qualified teachers. In stark contrast to workplaces in most public and virtually all private professional enterprises, many school facilities are outdated, poorly maintained, and technologically obsolete; few schoolteachers have offices or access to private telephones, private computers, or administrative support; supplies, up-to-date textbooks, computer software, and other necessary teaching materials often are inadequate; and the social environment for new teachers within the schools, among parents of school children in the community, and in relation to their colleges and universities often is unsupportive.

Teacher mobility also is an issue. The labor markets for teachers are dramatically more localized than for most other professions. Because of disparities in state licensure requirements, and because of the lack of portability of pension fund investments, prospective teachers often are unable to get jobs, or unwilling to take them, in geographic areas in which they might otherwise want to work. On average, four out of five newly trained teachers take jobs in the state in which they were prepared (Ballou & Podgursky, 1997).

Figure 4

Average Annual Salary of 1992-93 Degree Recipients in April 1997

Engineering	$44,524
Health professions	$39,421
Mathematics and other sciences	$38,148
Business and management	$37,454
Social science	$35,536
Public affairs/social services	$30,563
Humanities	$30,179
Biological sciences	$29,331
Psychology	$28,197
History	$28,147
Education	**$26,513**

SOURCE: McCormick et al, 1999.

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Transfers from out of state comprise less than 10 percent of all school system hires (NCES, 1996a).

A number of strategies could be undertaken to recruit teachers from wider geographic areas, such as establishing greater licensure reciprocity between states; using on-line technologies for job recruitment, job information, and job applications; nationalizing teacher searches; and streamlining hiring procedures (Darling-Hammond, 1999). Raising salaries, improving working conditions, developing induction programs, and recruiting new teachers from wider geographic areas are all means of increasing the supply of qualified teachers and broadening the labor market for teachers' services.

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Action Agenda for Presidents

The Task Force findings and the social and economic imperatives outlined in earlier sections of this report make it clear that colleges and universities–their governing boards, their faculties, their academic leaders, and, most of all, their presidents–must put the education of teachers front and center on the institutional agenda. It is college and university presidents who are uniquely positioned to lead and act.

The action plan set forth below is founded on three simple premises:

- The quality of schooling in the United States is inadequate for the times.
- Strengthening the way colleges and universities prepare teachers is a central element in improving the nation's schools.
- Decisive action by college and university presidents is essential if American higher education is to meet its responsibilities.

The Task Force believes strongly and unanimously that these premises are valid, and that the time for action is now.

Action One

College and University Presidents Must Take the Lead in Moving the Education of Teachers to the Center of the Institutional Agenda.

The quality of the nation's schools and teachers matters greatly to the public. The performance of graduates of teacher education programs is increasingly visible. Because of this heightened public attention, the public's impression of entire institutions will be influenced by the perceived quality of teacher education programs and graduates. If for no other reason, this reality alone justifies elevating the education of teachers to a prominent position on the institutional agenda.

Ultimately, it is presidents who outline the agenda, define the issues, commission studies, recommend policies, set institutional priorities, call for action, and form alliances with groups and forces beyond the campus.

Presidential leadership is essential because of the very nature of the education of teachers. Good teachers need to be educated not solely by members of a single department or school, but rather by faculty throughout the entire institution. Disciplinary knowledge, pedagogical understanding, and clinical skill are all essential to the education of a teacher. The challenges and questions associated with teacher education are aimed at whole institutions of higher education, not only at their faculty, departments, schools, or colleges. It is therefore the institution as a whole–its president and governing board–that stands accountable for the outcome.

The preparation of teachers relies heavily on arts and sciences faculty, as well as on education faculty. Learning in the discipline and clinical practice must be brought together into a cohesive whole. Such integration must occur at the campus level, and it must be driven by the sense of urgency and necessity that presidential leadership commands.

The policies that underpin teacher education programs–such as admission standards, curricular decisions, and graduation requirements–need to be set at the institutional level. If policy is to change, and if issues and problems are to be confronted, leadership must emerge at the senior administrative level. And this cannot happen–indeed *should* not happen–without the commitment of presidents.

Ultimately, it is presidents who outline the agenda, define the issues, commission studies, recommend policies, set institutional priorities, call for action, and form alliances with groups and forces beyond the campus. These are the very sorts of actions that will be required in order to drive fundamental change in the preparation of teachers. The endeavor will not succeed without strong, engaged leadership at the top.

As a first step, and more important than any other action recommended in this report, we urge college and university presidents to put the education of teachers at the center of the institutional agenda and to accept the challenge and responsibility to lead constructive change.

Presidents Need to Clarify and Articulate the Strategic Connection of Teacher Education to the Mission of the Institution.

The role of the education of teachers will not be the same at all colleges and universities. For some campuses, teacher education may be central and obvious. For many others, the relationship of teacher education to the core mission of the institution has been neither assessed thoughtfully nor articulated clearly. Such an assessment would in many instances lead to the conclusion that it would be impossible to imagine fulfillment of the campus mission and meaningful engagement with society in the absence of a strong teacher education program. In other cases, the strategic connection may be less obvious. Whatever the conclusion, strategic fit and institutional commitment should be explicit and clear.

Presidents and chief academic officers must lead their institution in a reexamination of the strategic role of teacher education, determine precisely where the education of teachers fits in the overall institutional mission and agenda, and articulate the importance of the education of teachers to the campus community.

Ultimately, it is imperative that the education of teachers be made a central priority of any college or university that offers such a program. Teacher education cannot be allowed to stand as a marginal program, and ought not to be treated with benign neglect. Where teacher education programs operate at the periphery of the institution's strategic interests and directions, they should be moved to the center–or moved out.

Presidents Should Mandate a Campus-Wide Review of the Quality of Their Institutions' Teacher Education Programs

A legion of critics has challenged the quality of teacher education programs. The most frequent charge is that prospective teachers are not given a sound grounding in the subject or discipline they are expected to teach. Detractors also have questioned the adequacy of clinical education and the value of pedagogical education for teachers. And with many states adopting new and higher standards for licensure, some accuse colleges and universities of failing to make corresponding adjustments in their teacher education curricula and campus standards.

The time has come for the president to call for a comprehensive review–led by the chief academic officer of the institution–of the character and quality of the institution's programs for the education of teachers. Issues of academic quality are first and foremost an institutional responsibility. Presidents should define the form of the evaluation, outline the fundamental issues to be addressed, and assemble a knowledgeable team of faculty leaders from the liberal arts and sciences, education, and other disciplines to gather the facts and assess the current state of the institution's teacher education program.

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A central issue in any such review needs to be the extent to which prospective teachers receive a sound grounding in the academic content area in which they expect to teach. Students preparing for careers in secondary schools should have a major or its equivalent in the field in which they plan to teach. Subject matter mastery is also important for students preparing to teach in the middle and elementary grades, including competence in such fields as mathematics, science, and language arts. In short, institutions must confirm that graduates from teacher education programs–at whatever level or in whatever subject–have a college-level knowledge of the content they are preparing to teach.

Effective teachers also must have significant knowledge of pedagogical principles and proven practical skills. Command of a discipline and of the fundamentals of pedagogy must be integrated in a sound clinical program conducted under the supervision of seasoned professionals. Teachers in the next decade also will require a very firm grounding in the impact and application of technology as a pedagogical tool in the classroom.

In addition to command of subject matter and strength in pedagogy, there are intangible qualities that contribute to a teacher's ability to facilitate student learning, including creativity, a love of young people and learning, and a caring attitude toward other people.

In addition to command of subject matter and strength in pedagogy, there are intangible qualities that contribute to a teacher's ability to facilitate student learning, including creativity, a love of young people and learning, and a caring attitude toward other people. We cannot forget that these traits, which often are difficult to measure, just as often are very significant in defining the truly gifted teacher.

The campus-wide evaluation should include an analysis of the quality of students admitted to the program. Admission standards, retention practices, and the academic performance of students in teacher education programs should match or exceed those of the student body as a whole.

At the same time, the review should determine what steps the teacher education program is taking to attract and retain talented minority students. It should also make sure all prospective teachers gain the skills and understanding required to teach in increasingly multicultural, multiethnic, and multiracial classrooms. Regardless of their background, teachers need to be sensitive to and knowledgeable about the cultural differences, learning modes, and communication styles they will encounter in today's classrooms.

The review also needs to address the sensitive issues of how faculty quality is assessed, how individuals or units are held accountable, whether the reward system for education faculty is consistent with that of the rest of the faculty, and whether the program is allocating resources efficiently and effectively.

The quality of a teacher education program is ultimately measured by the performance of its graduates. The review should survey that evidence and assess the adequacy of institutional tracking mechanisms to measure and monitor teacher performance after graduation. If needed, the assessment should recommend steps to be taken by the institution to monitor and evaluate more closely the performance of teacher education graduates–and, therefore, the quality and performance of the program itself.

Action Four: Presidents and Governing Boards Should Commission Rigorous, Periodic, Independent Appraisals of the Quality of Their Institutions' Teacher Education Programs.

In order to validate its own program quality and to encourage public confidence, every institution of higher education that offers an academic program of teacher education should secure some periodic, reliable form of third-party assessment of the quality of its program.

Approximately 1,200 higher education institutions offer programs for the education of prospective teachers; fewer than half of these are accredited by a national accreditation organization. The Task Force strongly urges that all institutions seek some form of reliable third-party appraisal, either through accreditation or through the appointment of an independent visiting committee, to undertake an objective assessment of the quality of the teacher education program. To ensure credibility, the results of this evaluation should be made public in an appropriate form.

In addition to actions taken independently by college and universities, every state carries out some form of quality evaluation for the purpose of licensing its teachers. The Higher Education Amendments of 1998 mandated that the results of state teacher examinations be made public. We urge support for these forms of public and professional accountability, as well.

American higher education is respected throughout the world for its long tradition of voluntary self-regulation of the quality of its academic programs. It is important that college and university presidents not surrender that authority by default in the case of teacher education. We therefore urge presidents either to embrace independent assessment of the quality of their teacher education programs, or close their teacher education programs.

Action Five — Presidents Must Require that Education Faculty and Courses are Coordinated with Arts and Sciences Faculty and Courses.

A common problem in colleges and universities is that faculties and programs become isolated behind departmental lines. The responsibility for preparing prospective teachers in the subject areas they will teach rests not only with school of education faculty but also with faculty of the institution as a whole–especially the arts and sciences faculty. Because the education of teachers requires coordination and engagement that goes beyond disciplinary boundaries, strong presidential leadership is critical to the success of any teacher education program.

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To achieve a common vision, a well-integrated curriculum, and an explicit point of accountability, presidents, working through their chief academic officers, should give strong and visible support to the appointment of an effective oversight committee of academic leaders. These leaders, both from the arts and sciences and from education, should craft and supervise the curriculum and academic standards for the teacher education program. They should stand accountable to the chief academic officer, to the president, and to the governing board for the quality of teacher education programs and offerings.

Any number of mechanisms can be devised to bring the disciplinary, pedagogical, and clinical expertise together in a unified whole. Whatever the approach, the aim should be to move teacher education beyond the confines of a single

department or college and raise it to the institutional level. This will not happen without the continuous oversight and attention of the chief academic officer and, when necessary, the intervention of the president.

Presidents Should Ensure that Their Teacher Education Programs Have the Equipment, Facilities, and Personnel Necessary to Educate Future Teachers in the Uses of Technology.

The federal government, too, should spend just as much on equipping teachers to use technology as it does to buy the hardware. One of these investments is meaningless without the other.

The nation must think beyond connecting schools to the Internet and instead think about keeping schools and teachers well-informed about the effective use of technology for educational purposes. High-speed connections, complete digital services, and modern computers are basic to every professional workplace and are essential to student learning in the 21st century. But technology will fail to meet its educational promise if we neglect to equip teachers with the skills they need to understand and use it. To touch the future, teachers must understand, be able to use, and be prepared to teach with and about the new technologies. Both veteran teachers and prospective teachers need sophisticated, intensive exposure to the uses and misuses of technology.

Students who will become teachers over the next decade are likely to have a much greater comfort level with and practical understanding of technology than mid- or late-career teachers, if for no other reason than that they have grown up alongside the technology. But this fact does not obviate the need to ensure that prospective teachers have the experience and knowledge they need to effectively apply their familiarity with technology to its particular uses in the classroom. Colleges and universities must provide technology education that enhances the capacities of teachers in proven, observable ways. Teacher education program personnel need to be encouraged–with either the carrot or the stick–to integrate the teaching of technology into teacher preparation curricula, and they must be given the resources and the training they need to do it effectively.

All of this will cost money, but if teachers are to stay ahead of the curve and, more important, to stay ahead of their students, presidents will need to step forward and champion the allocation of institutional funds for this purpose. The federal government, too, should spend just as much on equipping teachers to use technology as it does to buy the hardware. One of these investments is meaningless without the other.

Presidents of Graduate and Research Universities Have a Special Responsibility to be Advocates for Graduate Education, Scholarship, and Research in the Education of Teachers.

It is difficult to identify an area of comparable importance to society–agriculture, health, or national defense–where so little is invested in research and development as in the education of teachers.

Sound decisions regarding the education of teachers depend in part on reliable evidence of outcomes. Although the research on teaching has expanded in the last few years, the

storehouse of empirical data on teaching quality remains sparse. We know too little, for example, about the specific characteristics of teacher performance. We still do not fully understand even the basics–such as how teacher knowledge correlates with student achievement.

There are especially pressing needs for research directed toward the practitioner (Wyatt, 1994). Too much education research today is written for other educational researchers in a specialized language that is largely inaccessible to others (Miller, 1999). In professions such as business, engineering, law, and health care, practitioners read research journals regularly in order to improve their daily practice. The key to developing a similar culture among teachers is to build a strong and credible research capacity in which findings have applications that are useful to the classroom practice of teachers.

Colleges and universities themselves spend too little of their budgets on evaluation, assessment, and development of new and innovative approaches to teaching and learning. The states' investments are equally insignificant.

The primary source for research funding in higher education, however, is the federal government. And here the record is shocking. Federal appropriations for research and graduate education in teaching and teacher education constitute less than 1 percent of total federal research expenditures. In FY 1999, the federal government allocated $37 billion for defense-related research; $16 billion for biomedical research; $5 billion for space research; $3.7 billion for research funded by the National Science Foundation; $1.7 billion for agricultural research; and less than $300 million for research in education (Office of Management and Budget, 1999). Given the professed concern of politicians and the public for improving education in the country, this level of federal funding for research in teaching and learning is indefensibly inadequate.

There are especially pressing needs for research directed toward the practitioner (Wyatt, 1994).

Presidents, especially those leading research-intensive universities, can be strong advocates for a sharp increase in federal funds for graduate education and research on teaching, learning, and the education of teachers. With the nation spending $300 billion a year on public elementary and secondary education (NCES, 1997b), it is not unreasonable that the federal government invest an additional 1 percent of that amount ($3 billion) in college- and university-based education research and graduate education. Presidents also can support increasing their own institutional funding for education research and for those graduate programs that will develop the next generation of faculty members, the educators of tomorrow's teachers.

Action Eight: College and University Leaders Should Strengthen Inter-Institutional Transfer and Recruitment Processes.

Most of today's college students attend more than one institution of higher education before receiving a degree (McCormick and Horn, 1996). In the field of teacher education, Henke (1996) has determined that more than one-fifth of those who will become practicing teachers start out at community colleges. Many educational leaders believe the actual

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number of teachers beginning their academic careers in community colleges is much higher. Large numbers of other students move from one four-year college to another before completing their degrees.

Community college leaders are well aware of the role their institutions play in the education of teachers, but often the rest of the higher education community is not. This student mobility can upset the coherence of the teacher education program unless institutions cooperate to design articulation agreements that specify how programs fit together. Carefully crafted articulation agreements can strengthen the quality of academic programs, enable students to move smoothly from one academic setting to another, and, ultimately, improve the quality of teachers available to serve the nation's schools.

Supportive articulation agreements with community colleges hold special promise for improving the diversity of the teaching force. Community colleges enroll a larger proportion of minority students than four-year institutions (Foote, 1997). They also are an entry point for mid-career adults. Clearer pathways can encourage both mid-career adults and minority students to pursue careers as teachers. Establishing functional relationships with other colleges and universities and developing clearer pathways to degree completion are two good ways of expanding the numbers entering teaching careers.

Action Nine — Presidents Should Ensure that Graduates of Their Teacher Education Programs are Supported, Monitored, and Mentored.

Clinical partnerships between colleges and schools to provide new teachers with continuing assistance and mentoring following graduation would enhance significantly the success and survival of teacher education program graduates. Such partnerships provide opportunities for graduates to upgrade their skills, receive help from master teachers, and gain perspective and support through peer group activities.

Teachers' career development and persistence, as with other professionals, depends on continuous learning and support. Colleges and universities need to ensure continuing professional growth for teachers during a student's college years and early career through well-designed induction programs.

Just as important, colleges and universities, working in partnership with the schools, should assist experienced teachers with strong, well-crafted professional development opportunities that utilize both the faculty and the research resources of the institution. In addition to strengthening teachers' skills in managing the changing classroom and keeping current in subject matter knowledge, such programs provide peer support for teachers and maintain an essential link between institutions of higher education and the schools.

America should set a goal: By the year 2005, we should cut in half the attrition rate that currently exists among newly qualified teachers. This goal will be accomplished only if colleges and universities engage actively in a support and guidance system that serves both the graduates themselves and the schools that employ them.

Presidents Should Speak Out on Issues Associated with Teachers and Teaching and Should Join with Other Opinion Leaders to Shape Public Policy.

Even as college and university presidents act to improve the teaching of teachers, a school environment that does not foster and reward excellence will not attract or retain the best teachers.

Serious systemic problems face America's public schools. College and university presidents must join with governors, business and opinion leaders, public policy makers, and teachers themselves to reform the system. Teacher salaries are not competitive. The environment of the schools is not conducive to productive professional practice. Teachers do not have available to them the tools or support systems that are essential to their task.

The best teacher education programs in the world–by themselves–will not remedy these and other deep-seated systemic deficiencies. College and university presidents are the spokespersons and agents for their institutions in the larger society. It is crucial that they play a vigorous role in advocating for and supporting constructive change in the system.

One area requiring attention is the need for more carefully crafted and relevant standards for state licensure of teachers. As in any profession, the license to practice ought to serve as a safeguard and warranty to assure the public that its holder is qualified to perform professional service. Presidents can be engaged actively as advocates for appropriate standards of quality, working with governors, legislators, and community leaders to assess and improve state licensure requirements. Better standards of state licensure, in turn, will serve to both improve the quality of entering teachers and strengthen teacher education programs themselves.

A second area of public policy that requires the special attention of presidents is the widespread practice in many school systems of employing teachers who are unlicensed and underprepared in the subjects they are teaching. That many students in America–often those most in need of excellent teachers–are taught by unqualified teachers is a reprehensible form of publicly sanctioned malpractice. Just as no person should receive medical care from a person who is not qualified or reliably certified as a health-care professional, no student should face an unqualified or uncertified teacher. Presidents can be leaders in efforts to abolish the use of emergency unlicensed teachers. Presidents can collaborate with other influential citizens to change public policy and to provide both sanctions and incentives, particularly higher pay and better

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Presidents represent the academy to the outside world. The education of teachers is a partnership between the academy and the community. Every citizen in the nation has a stake in the effectiveness of the nation's schools. Presidents have a special responsibility and opportunity to build alliances with external constituencies and to develop stronger public support for learning at every level by every sector in the society.

To fulfill this responsibility, presidents need to be visibly engaged, vocal spokespersons and strong public leaders in the field of education. Presidents can forge and reinforce strong ties with the schools, with state departments of education, with public policy makers, and with business leaders; they can make their presence felt at public events; they can write opinion pieces for the newspapers; and they can appear on broadcast talk and news programs. Most college and university presidents enjoy the confidence of the public and have a visible platform from which to speak. On the issues of teacher education, high-quality schools, and the role of learning in our society, presidents need to be heard.

Touching the Future

As Christa McAuliffe reminded us, education is and always has been about the future. College and university presidents are in a special position to touch and shape that future. Presidents are keepers of the covenant between the nation's colleges and universities and its schoolchildren. This report calls repeatedly for leadership. We have urged that the leadership come from college and university presidents. It is presidents who serve as catalysts for change, as alliance builders, as visible and respected leaders in communities, as advocates for learning and the human spirit, and as influential framers of academic and public policy.

America stands at a point in its history where the political will to improve education is strong. We know what needs to be done and what directions to take. Our call is for colleges and universities–their faculties, academic leaders, and governing boards–led by their presidents, to take on the challenge of shaping the future of teacher education in this country.

Every schoolchild in America needs and deserves teachers of the highest quality this nation is capable of producing. The two partners in achieving this goal are the school systems that employ teachers and the colleges and universities that educate them. Unless both partners change, the country will not prosper. Higher education must demand more of its students–future teachers–and more of itself. And school systems must do more to develop the talents of teachers and make the profession a more attractive career.

Action by presidents and institutions of higher learning, properly executed, will help us to touch the future.

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Appendix A

A Call for Teacher Education Reform: A Report of the AASCU Task Force on Teacher Education

In Support of AASCU's Call for Teacher Education Reform

AASCU presidents and chancellors have consistently recognized their role in ensuring that our nation's teachers are well prepared. Many of our campuses' teacher preparation programs are effective and are producing quality teachers who perform well in the classroom. However, there are other institutions whose programs have not produced the desired results, and the need for improvement in those programs continues. AASCU institutions educate 54 percent of all the teachers in the United States. These colleges and universities must accept their responsibility for ensuring that, despite today's changing and challenging classroom environment, they produce teachers whose excellence is demonstrated by fine and effective classroom teaching. It is the students as well as society who will benefit from this commitment.

James B. Appleberry, President
American Association of State
Colleges and Universities

AASCU's call for the reform and revitalization of teacher education is precisely on target. All universities and their presidents and chancellors should work to make quality education for our nation's teachers a top campus priority. I commend this excellent report to the attention of the presidents and leaders of the National Association of State Universities and Land-Grant Colleges.

C. Peter Magrath, President
National Association of State
Universities and Land-Grant Colleges

The call for the reform of teacher education has been heard for at least a decade as an expression of the public's distress with the perceived inadequacies of our nation's schools to effectively educate our children. There are numerous measurable demonstrations of poor performance by America's public school students compared to students of the same age and level in other countries that validate the public's concerns, and the concerns of employers.

Research findings show that the quality of the classroom teacher can be a determining factor in the quality of a student's educational experience, even though family and the community also play critical roles.

Much of the responsibility of ensuring that teachers are effective must rest with the colleges and universities that prepare them. This

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does not come as a surprise to those who have educated the nation's teachers. The institutions that are members of the American Association of State Colleges and Universities (AASCU) produce nearly three-fifths of the beginning schoolteachers in the United States. For this reason, the presidents and chancellors of these comprehensive colleges and universities have recognized the need for and their role in ensuring the quality of teacher education programs, and the fostering of reform where needed.

AASCU's Statement on Responsibilities for Teacher Education, published in 1994 as a result of its national Teach America project, called for teacher education to be a high priority for the entire campus, and for presidents to provide leadership to ensure continuous quality improvement in teacher preparation programs. This call for action also recommended broad principles to guide reform. Many campuses have engaged in significant reform, yet the need for improvement continues.

AASCU, through an appointed task force of college and university presidents and chancellors, provosts and vice presidents, and state education leaders has again tackled the need for reform in many of its institution's teacher preparation programs. Drawing from the earlier work in Teach America and after a study of the current literature, AASCU is again calling for specific actions on the part of campuses to further the reform of teacher preparation. The urgency for reform has never been more apparent. This document supports a vision that AASCU institutions can and will produce the most effective and best-prepared teachers in the world.

Vision Statement

AASCU colleges and universities, through their teacher education programs, accept the responsibility for preparing the nation's schoolteachers. They are committed to producing graduates who are the best-prepared teachers in the world, and representative of the ethnicity of the nation's population. These teachers will be prepared to meet the challenges presented by the full range of ethnic, economic, and intellectual diversity represented in the nation's schools.

Graduates of AASCU teacher education programs will be committed to the highest intellectual standards for all students and dedicated to strong social and moral values for the nation.

Graduates of AASCU teacher education programs will be current in their fields of specialization, and committed to personal growth and continuous development. Trained in the latest learning theory and pedagogical techniques, these teachers will continuously review knowledge about education theory and practice with colleagues and mentors to stay abreast and to respond to the needs of a diverse student population. As practicing teachers, they will be deeply grounded in the subject matter they will teach. They will also study with faculty from other disciplines outside the colleges of education who will participate in their continuing professional development as a function of a university-wide responsibility for teacher preparation.

Prepared to confront the complex dynamics of the modern classroom with a high level of professionalism, graduates of AASCU institutions will thus devote a significant number of years to the teaching profession. Through their commitment, and as a result of the significant improvement of salaries and working conditions in the schools, teaching will be raised to one of the most esteemed professions.

AASCU teacher education programs will attract America's best and brightest students whose excellence will be measurably demonstrated through fine classroom teaching. These graduates will focus on student learning and will participate actively in the reform of the schools they serve.

The dramatic changes in the conditions of society demand a higher level of ability for teachers to function effectively in the classroom, and reform must be considered in the context of the dynamic and complex learning environment in which teachers and students operate. Systemic changes need to occur and the impetus must come from a variety of sectors.

To Fulfill This Vision AASCU Presidents and Chancellors Should:

- take the lead to ensure that teacher education is a top campus priority;
- declare that the preparation of teachers is the responsibility of the entire campus;
- demonstrate the priority of teacher education by making budget and personnel decisions that support a high-quality teacher preparation program;
- emphasize the importance of teacher education reform in frequent public statements;
- work in the community and the state for necessary changes in the schools; and
- share and acknowledge effective reform efforts of other national organizations, such as those by the National Commission on Teaching and America's Future, the Council for Basic Education, the Renaissance Group and many others.

To Fulfill This Vision AASCU Institutions, Under the Leadership of Their Presidents, Should Ensure That:

- *The reform of teacher education programs occurs simultaneously with the reform of the schools they serve.*
  Teacher education programs must join with the public schools in close cooperative relationships to achieve this goal. If teacher education programs are to attract the brightest students, the conditions of employment in the schools must be improved. There needs to be planning time, teacher involvement in curriculum, enhanced professional development opportunities and higher salaries.
- *Through cooperative relationships with the schools, teacher education programs form partnerships and establish professional development programs so that all of the teacher education students can benefit by the close alliances and can profit from extensive in-school experiences.*
  These partnerships must have the full support of the college and university presidents and the school administrations. They must operate according to the highest standards. Teachers who have been selected into programs such as the national Teachers Hall of Fame at Emporia State University in Kansas and other teachers with whom AASCU consulted all emphasized the importance of early and frequent in-school experiences for the students preparing to teach.
- *Curriculum planning and implementation is a joint endeavor between faculty in education programs and faculty in other academic disciplines.*
  Teacher education is the responsibility of the entire campus and everyone must invest in its success. The barrier between discipline-based faculty–typically housed in the arts and sciences–and the faculty in professional education programs must be eliminated.
- *Future teachers have a thorough preparation in subject matter discipline and are able to help the students they teach learn that subject matter.*
  Teacher education students must be tested/assessed in both substance and pedagogy in preparation for certification to document appropriate knowledge in the field of specialization and performance ability in the classroom.

Institutions should consider offering a "guarantee" to hiring school districts. Those graduates who do not perform satisfactorily could be offered enrollment again in the teacher education program at no cost to the student or district. Ideally, the teacher education program and the school district should jointly evaluate perceived problems and design specific approaches to the solution.

- *Teacher education programs attract, recruit and retain superior students.*
  School districts and colleges and universities should work together to develop aggressive recruitment strategies, including but not limited to scholarships at a local and state level, tax credits, and student loan forgiveness.

Colleges and school districts should develop early identification programs to recruit the most promising students into teacher preparation programs. Limiting the number of students allowed into a program by grade point or other quality measures will create a strain

on supply at a time when demand is increasing, but it is a necessary step.

AASCU supports the establishment of high standards such as those espoused by the National Board for Professional Teaching Standards and the Council for Basic Education, and encourages continued work by these and other groups.

Where there has been a lack of respect for intellectual achievement, the local campus culture must change. A consideration of the success of a program should include an examination of its intellectual quality.

At least 75 percent of each entering class in teacher education should be in the top 25 percent of the total student body, and all should have earned a grade point upon entering a professional teacher education program of at least 3.0 on a four point scale in college-level courses.

- *Each teacher education program has a plan to increase the ethnic diversity of the pool of prospective teachers.*
  The shortage of qualified minority candidates for teaching positions is a critical problem. Teacher education programs cannot meet their obligations to the community without greater diversity in the pool of graduates. AASCU would encourage early identification programs that begin as early as middle school to find and encourage promising teachers.
- *All potential teachers are prepared to teach diverse learners.*
  Students develop and learn at different rates according to their interests, abilities and skills, and according to the experiences they bring from diverse backgrounds. All teacher education programs should be able to demonstrate the manner in which graduates are able to meet the needs of a diverse population.
- All teacher preparation programs include training in the use of technology for instruction.

Technology to enhance learning should be a hallmark of teacher preparation programs.

- *Programs, whether four- or five-year, meet the highest standards of both content and pedagogy and are fully integrated through the full four- or five-year's curriculum.*
- *Institutions acknowledge that accreditation is best achieved through voluntary agreement between institutions and accrediting agencies and ensure that there is an alignment between the standards for accreditation and certification.*
  Accreditation should be related to program outcomes and accreditation review processes should include representatives from the public schools and the public.

To Fulfill This Vision Policymakers and School Boards Should:

- *Work to establish a high level of mobility for teachers across state lines.*
  This will require reciprocal licensing agreements and portable pension plans. The teacher shortage will not be evenly distributed across the country, and those states with teachers in short supply must be able to recruit nationally.
- *Require high standards for the placement and assignment of teachers so that they are not assigned outside of the fields for which they are qualified.*
  It is impossible to provide quality education in the schools with teachers who are not prepared in the disciplines they are asked to teach. There should be no assignments of teachers in fields for which they are underprepared and in which they have not been examined and certified.
- *Establish policies so that school districts and teacher education programs can enhance the retention of new teachers (such as mentoring programs for first-year teachers).*
  No new teacher should be without the friendly guidance of a master teacher, especially during the first year. Only with collegial help and in an environment that projects a high level of professionalism and reward will new teachers be committed to a lifetime career.
- *Provide regular professional development opportunities for all teachers, ideally developed in conjunction with colleges and universities.*
  This can be done in part through partnerships/professional development efforts, but must be at a level of intensity and intellectual sophistication to contribute to educational excellence.

- *Establish salary levels that are sufficiently attractive to recruit strong students to teaching.*
  In a society that measures value to a large degree in levels of pay, prestige necessary to attract good students is impossible without pay levels that are calculated to provide a strong sense of well-being for those starting in the profession.

To FulFill This Vision the State Should:

- acknowledge the critical role that state government through the power of state education departments has in the improvement of teacher education;
- establish and demand high standards for teacher certification based upon valid and reliable performance; and
- work cooperatively to ensure that licensing examinations provide comparative information across state lines.

To Fulfill This Action AASCU Should:

- Urge the closing of teacher education programs that are unable to achieve the recommended reforms within five years.
- Advocate for expansion of the strongest teacher education programs in order to meet the demand for more teachers, even while some programs are eliminated.
- Establish a review panel of presidents to collect information on the success of the reform efforts, to evaluate that information and to recommend new reform methods where appropriate.
- Communicate with other groups devoted to teacher education reform.
- Assess the progress of the association's reform recommendations and release the findings of that assessment.

The Task Force recommends the submission of the following two resolutions to the AASCU membership.

Resolution I
Whereas, AASCU institutions produce the largest proportion of teachers for America's schools; and

Whereas, The need for reform of teacher education is widely recognized; and

Whereas, AASCU agrees with the compelling need for reform. Be it therefore

Resolved, that AASCU teacher education programs pledge fundamental reform of teacher education as set forth in the AASCU Task Force Report; and

That AASCU agrees to publicly identify those presidents with special institutional recognition who will commit to teacher education as a number one campus priority for a five-year period to implement the reforms.

Resolution II
Whereas, It is acknowledged that the teacher in the classroom is the key to good public education; and

Whereas, AASCU teacher education programs train most American teachers; and

Whereas, Reforming teacher education in fundamental ways depends on the health of the teaching profession in the public school setting. Be it therefore

Resolved, that AASCU appeals to the nation's school and state education authorities to join with the colleges and universities to bring about simultaneous reform, as called for in the report of the AASCU Task Force on Teacher Education.

AASCU Presidents Task Force On Teacher Education

Patricia Cormier (Chair)
President
Longwood College (Va.)

Molly Corbett Broad
President
University of North Carolina

Constantine Curris
President
Clemson University (S.C.)

William B. DeLauder
President
Delaware State University

Ed M. Elliott
President
Central Missouri State University

David Imig
President
American Association of Colleges for Teacher Education

Jim Koch
President
Old Dominion University

Thomas C. Meredith
Chancellor
University of Alabama System

Sherry Penney
Chancellor
University of Massachusetts at Boston

Frank Pogue
President
Edinboro University of Pennsylvania

Charles B. Reed
Chancellor
California State University

Kay Schallenkamp
President
Emporia State University (Kan.)

Marlene Springer
President
City University of New York, College of Staten Island

Paul D. Stapleton
Virginia Department of Education

Jerry Weast
Superintendent of Schools
Guilford County Schools (N.C.)

Les Wong
Provost
University of Southern Colorado

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American Association of State Colleges and Universities
1307 New York Avenue, NW
Fifth Floor
Washington, DC 20005-4701
202.293.7070 • fax 202.296.5819
www.aascu.org

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Appendix B

Resolution on Teacher Education
American Association of Universities
June 1999

It is time for America–and America's universities–to make a new, sustained commitment to teachers and, hence, to the millions of students whose lives they shape. The universities we represent, in which research is one central function, have a special responsibility to make such a commitment. We are committed to inquiry and to learning, and so we must more fully understand how people learn and must more effectively assist those who teach. AAU institutions–which have long been partners in serving the needs of the nation–must use their resources of our institutions to support and nurture our teachers and the educational systems in which they work.

The challenges faced by the nation's elementary and secondary schools are enormous. Helping these schools and their teachers prepare young people for lives of meaning in 21st-century America will require many and more creative actions on the part of individuals and institutions. The research universities we represent intend to work with and, in many cases, already are working with the schools to strengthen the preparation of new teachers in our universities and to contribute more substantially to the continuing professional development of in-service teachers.

For the last year, the AAU, through its Committee on Undergraduate Education, has been carefully considering ways in which research universities can renew their commitment to teacher education. Today, the Association endorses the following agenda and encourages continued implementation of this agenda within its member institutions:

- more fully integrate teacher education and professional development programs into the rest of the university;
- make possible and encourage the certification of appropriate disciplinary majors as teachers, and explore the development of sound alternative certification routes;
- recognize and strengthen the role of our graduate programs in providing leaders for K-12 schools and in preparing future college and university faculty who will teach the next generation of teachers;
- make more research experiences available to current and future elementary and secondary school teachers, especially in the areas of math and science;

- better utilize institutional research capabilities to improve teaching and learning in teacher education programs;
- recognize and act on the knowledge that teacher preparation is inherently a partnership, and create and sustain stronger ties with schools, state departments of education, intermediate service providers, and employers in preparation of teachers;
- create and sustain stronger programs of continuing education for teachers and integrate such programs with initial preparation programs; and
- provide the kind of educational experience to all students that would attract more of them, including those who have not been advantaged by present systems, to teaching as a career option.

The Association hopes and expects that these actions will engage its institutions more fully in joint efforts to ensure that the benefits of a powerful, content-rich education will be available to all of America's young people.

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Touching the Future:

Final Report

Presidents' Task Force on Teacher Education

ACE
American Council on Education

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One Dupont Circle NW
Washington, DC 20036

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ACE Presidents' Task Force on Teacher Education

Karen Adams
Dean of the College of Education and Behavioral Sciences
Western Kentucky University

James Appleberry
President Emeritus
American Association of State Colleges & Universities

Mary Beth Blegen
Teacher/Consultant

George R. Boggs
President
American Association of Community Colleges

Jerry M. Boone
President
Ferrum College

Clinton Bristow Jr.
President
Alcorn State University

Betty Castor
President
National Board for Professional Teaching Standards

Wilmer Cody
Commissioner of Education (retired)
Kentucky Department of Education

Mary Sue Coleman
President
University of Iowa

Margaret Cozzens
Vice Chancellor for Academic & Student Affairs
University of Colorado at Denver

Constantine Curris
President
American Association of State Colleges and Universities

Howard Daudistel
Dean of the College of Liberal Arts
University of Texas at El Paso

Catherine Emihovich
Dean of the College of Education
California State University–Sacramento

James England
Senior Distinguished Fellow
Education Commission for the States

Peter Facione
Dean of the College of Arts and Sciences
Santa Clara University

Allen Glenn
Professor and Dean Emeritus
University of Washington–Seattle

Nils Hasselmo
President
Association of American Universities

Gerry House
President and CEO
Institute for Student Achievement

Muriel A. Howard
President
Buffalo State College

Stanley O. Ikenberry
Regent Professor
University of Illinois at Urbana-Champaign

David Imig
Chief Executive Officer
American Association of Colleges for Teacher Education

Donald Langenberg
Chancellor
University System of Maryland

Arthur Levine
President
Columbia University, Teachers College

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Shirley A. Lewis
President
Paine College

C. Peter McGrath
President
National Association of State Universities and Land-Grant Colleges

Margaret McKenna
President
Lesley University

Daniel Moriarty
President Emeritus
Portland Community College

Thomas Payzant
Superintendent
Boston Public School District

David Pierce
President Emeritus
American Association of Community Colleges

Stephen Portch
Chancellor Emeritus
University System of Georgia

Charles Reed
Chancellor
The California State University System

William Robinson
President
Whitworth College

Charles Ruch
President
Boise State University

Ted Sanders, *Chair*
President
Education Commission of the States

Lou Anna K. Simon
Provost and Vice President of Academic Affairs
Michigan State University

L. Dennis Smith
President
University of Nebraska

Note: Titles reflect positions held in March 2002.

Paul L. Vance
Superintendent
District of Columbia Public School System

David Warren
President
National Association of Independent Colleges and Universities

Joe B. Wyatt
Chancellor Emeritus
Vanderbilt University

Staff and Consultants

Michael A. Baer
Senior Vice President
Division of Programs and Analysis
American Council on Education

Wilmer Cody
Consultant

Charles Coffin
Editorial Consultant

Daniel Fallon
Program Chair
Carnegie Corporation of New York

David Imig
Chief Executive Officer
American Association of Colleges for Teacher Education

Jacqueline E. King
Director
Center for Policy Analysis
American Council on Education

Patricia A. Maloney
Consultant

Andrew Wayne
Education Researcher
SRI International

A Call to Action

In October 1999, the American Council on Education Presidents' Task Force on Teacher Education, supported by grants from the Carnegie Corporation of New York and the Ford Foundation, published its research findings and recommendations for action in a forceful, comprehensive document titled *To Touch the Future: Transforming the Way Teachers Are Taught.* The report, which commanded widespread attention in the media and among educators, laid a framework for college and university leaders to engage actively and aggressively in reforming the way their institutions educate future teachers.

Students' success in elementary and secondary school primarily depends on the effectiveness of their teachers.

The study based its arguments and recommendations on three premises: 1) the quality of the nation's elementary and secondary schooling is inadequate to the needs of the 21st century; 2) the preparation of schoolteachers is a fundamental responsibility of America's colleges and universities; and 3) decisive action by college and university presidents is essential to achieve excellence in both teacher education and the nation's schools. The panel's research found that:

- Students' success in elementary and secondary school primarily depends on the effectiveness of their teachers.
- Effective teachers demonstrate command of the subject matter they teach, strong preparation in effective pedagogical practice, and high academic performance.
- Strong and effective teacher education programs share many identifiable, common characteristics.
- The academic achievement of college graduates who teach in secondary schools is comparable to that of college graduates overall, but below average for those who teach in elementary schools.
- Teachers are inadequately prepared to understand and apply technology to teaching.
- Current mechanisms of academic quality control–at colleges and universities, in schools and school systems, and through state laws and regulations–are inadequate to ensure that only fully qualified teachers enter the profession.
- The professional environment in which teachers work does not attract or retain enough high-quality individuals to meet demand for new teachers, which is projected to be at least 2.5 million in the next decade.
- Demand for new teachers can be reduced significantly by lowering teacher attrition.
- Special efforts and incentives will be needed to correct teacher shortages in high-poverty schools, in special-needs programs, in the sciences, and among minority teachers.

Based on these findings and premises, *To Touch the Future* set forth an "action agenda" for college and university presidents, calling on them to take 10 steps:

1. *Take the lead in moving the education of teachers to the center of their institutions' agendas.*

2. *Clarify and strengthen the strategic connection between teacher education and the mission of their institutions.*

3. *Mandate campus-wide reviews of the quality of their institutions' teacher education programs.*

4. *Commission—in conjunction with their governing boards—rigorous, periodic, independent appraisals of the quality of their institutions' teacher education programs.*

5. *Require that education faculty and courses are coordinated with arts and sciences faculty and courses.*

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6 *Ensure that their teacher education programs have the equipment, facilities, and personnel necessary to educate future teachers in the uses of technology.*

7 *Be advocates for graduate education, scholarship, and research in the education of teachers.*

8 *Strengthen inter-institutional transfer and recruitment.*

9 *Ensure that graduates of their teacher education programs are supported, monitored, and mentored once they enter the teaching profession.*

10 *Speak out on issues associated with teachers and teaching and join with other opinion leaders to shape public policy.*

Dissemination and Implementation

In the years following the release of *To Touch the Future*, the American Council on Education has engaged in a focused campaign to raise awareness about the shortcomings in the education of schoolteachers, as well as to help devise ways of overcoming these deficiencies. Funded by further grants from the Carnegie Corporation and the Ford Foundation, the campaign targeted college and university presidents, government officials charged with leading and regulating elementary and secondary education in the states, and the general public.

At its release, the report was featured in four of the nation's most prominent newspapers–*The New York Times, The Washington Post, The Los Angeles Times,* and *USA Today.* These stories, along with scores of other media accounts of the report, created the opportunity for us to engage more credibly with leaders in individual states and on particular campuses to encourage and assist them in taking action. ACE concurrently sent the report to the more than 3,500 college and university presidents and system heads throughout the country, to all members of Congress, as well as to key state legislators and federal education officials.

Maintaining the initial momentum of the report required an efficient, continuous flow of information to and among those disposed and positioned to move aggressively toward the reforms that the report suggested.

Maintaining the initial momentum of the report required an efficient, continuous flow of information to and among those disposed and positioned to move aggressively toward the reforms that the report suggested. We determined that a dedicated web site, the Presidents' Network for the Education of Teachers (PRESNET), would best serve not only to widen circulation and awareness of the report, but also as a forum for education leaders to share ideas and information about teacher education and keep them apprised of others' progress in addressing the challenges that the report delineated. In the often halting, frustrating, and lonely pursuit of change, the knowledge that others elsewhere are cultivating similar vineyards often serves as critical motivational reinforcement. Since its inception in August 2000, nearly 200 presidents and chancellors, and several hundred senior academic administrators, have signed up to receive e-mail updates with links to new information on the PRESNET web site, while many more have accessed the site directly.

At the same time, we concluded that more targeted, personal outreach would be necessary to assist those leaders who had already begun to take the initiative in their states, their communities, or their institutions and to encourage other leaders who wished to move toward reform. Over a period of several months following the report's publication,

ACE Senior Vice President for Programs and Analysis Michael Baer made presentations to and held discussions with numerous groups of system and campus presidents and chancellors in Massachusetts, California, New York, and Kentucky, as well as addressing meetings of the Education Commission of the States, the Academic Standards Committee of the Board of Trustees of the State University of New York, and the American Association of Colleges for Teacher Education. These encounters brought about not only a wider appreciation of the content and urgency of *To Touch the Future,* but also, in at least two instances, formal public statements on the subject of improving teacher education.

With this initial groundwork underway, ACE retained former Kentucky Chief School Superintendent and Task Force member Wilmer Cody as senior consultant, and charged him with contacting presidents and state system heads who had demonstrated a commitment to improving teacher preparation, who had successfully undertaken K–16 initiatives, or who showed interest in advancing the work of the Task Force. Beginning in April 2000, Cody undertook a series of contacts that led to the selection of systems or institutions in several states as "willing targets" of observation, consultation, and technical assistance.

- In Kentucky, presidents and provosts held an October 2000 conference on teacher preparation for arts and sciences and education deans. ACE staff attended the meeting and provided an overview of teacher preparation efforts since the publication of *To Touch the Future.*
- In Louisiana, the state's blue ribbon commission on teacher preparation convened in January 2001 to discuss upcoming K–16 efforts. ACE's senior consultant helped develop the meeting program and also presented information for presidents.
- In Maryland, public university system head Donald Langenberg (also a member of the ACE Task Force) incorporated the 10 action steps in *To Touch the Future* into the annual evaluation for each of the system's presidents. ACE staff and the senior consultant provided a professional development session for the presidents in October 2000.
- In Mississippi, Clinton Bristow, president of Alcorn State College and a member of the ACE Task Force, invited the senior consultant to make a presentation at the fall 2000 meeting of the Mississippi Association of Colleges, a group consisting of the presidents of the state's colleges and universities. At the conference, the presidents established a task force and timeline for improving teacher preparation in the state.

- In Nebraska, the senior consultant met twice with Dennis Smith, chancellor of the University of Nebraska system, and his senior staff, to develop a consultation on teacher preparation issues.
- In North Carolina, the public university system, headed by Molly Broad, is engaged in extensive teacher preparation and professional development activities and also is home to the Southeast Center for Teaching Quality, part of the National Commission on Teaching and America's Future. In December 2000, the senior consultant met with UNC campus deans of liberal arts and education to discuss improving teacher preparation across academic divisions.
- In Texas, the senior consultant held several meetings with Howard Graves, chancellor of the Texas A&M system, and presented a program at a summer 2001 meeting of Texas A&M leaders and the state board of education.
- In Wisconsin, Katherine Lyall, chancellor of the public university system, invited the ACE senior consultant and several other presidents and chancellors seeking to improve teacher preparation to participate in a year-long series of meetings with the Wisconsin governing board and senior staff while the system was developing its K-16 initiative. The senior consultant also met several times with Nancy Zimpher, chancellor of the University of Wisconsin-Milwaukee, and made a presentation at an October 2001 meeting of the Great Cities' Universities Presidents' Initiative.

What Was Learned

More than two years of actively observing the impact of *To Touch the Future* prompt two conclusions–one particularly heartening and the other, predictably, less so. The first is that action and change are most likely to occur when they are driven by committed, high-level campus and system leaders who dedicate their influence, tenacity, skills, and time to generating reform. The second is that, even under the guidance of effective leadership–but especially in its absence–the prospect of change faces the pervasive inertia common to organizations comprising a variety of constituent interests and points of view. With so many other education policy priorities demanding their attention and petitioning them for money, government and education officials tend to move slowly, if at all, in building the consensus necessary to refashion legislative and regulatory provisions and put new practices into action. So too with colleges and universities.

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Still, because of the vigor of individual leadership and despite the general predisposition to maintain the status quo, the Task Force report and the ACE follow-up campaign have generated a number of positive outcomes.

- They have raised the issue of teacher preparation to a salient level among college and university leaders, state education officials, and, to some degree, opinion leaders and the general public, leading them to put teacher education high on their agendas.
- They have prompted new initiatives between schools and universities at the senior executive level and have led some states to organize statewide meetings to address the issues advanced in the report.
- They have supplied campus and system leaders who were intent on reform even before the report's release with ammunition for their struggle to create change.
- They have engendered a wealth of imaginative ideas for implementing the recommendations of the Task Force, as well as providing a vehicle for sharing those ideas among education officials and campus leaders.
- They have encouraged arts and sciences faculty on many campuses to become an integral part of teacher education.
- They have demonstrated to college and university presidents that they play a significant role in and have major responsibility for the education and preparation of the nation's teachers.

Observations of and discussions during the past two years with individual system heads in seven states who were engaged in teacher education initiatives led to the following generalizations about conditions and characteristics common to successful reform efforts:

- Acute awareness on the part of the system head that universities' role in K–12 teacher quality was growing as a "hot topic" among higher education leaders, national and state lawmakers, and the general public.
- A system head known to colleagues, government officials, and campus leaders as an outspoken advocate for improving teacher education programs.
- Collaboration between the system head and the state superintendent of education to establish a council, task force, or commission to develop recommendations for improving teacher preparation.
- An appreciation of and capacity for coalition building–among politicians, higher education leaders, school officials, college and university presidents, and university faculty and administrators.
- Assignment of a senior staff member to the initiative on a full-time basis, either within the university system office or jointly with the state superintendent of education (and others).
- Incentives–such as trustee mandates, supplemental funding, political pressure, teacher education program evaluations, and presidential performance evaluations based on the program assessments–to motivate campus presidents to take the initiative seriously.
- Institutionalization of the initiative with multi-year work plans, budgets, and staff.
- Recognition that a unique set of political, budgetary, and structural circumstances shapes the agenda and the strategy of a system.

Where to Go from Here: A Work in Progress

In the face of lower state revenues and increased demand for federal dollars as a consequence of September 11 and a nationwide recession, galvanizing political attention and directing government spending toward even so popular a cause as improving the quality of elementary and postsecondary education–particularly the teacher education on which so much of that quality depends–is a daunting challenge. Even in prosperous and stable times, change comes haltingly in a field fraught with long-established practices, multiple constituencies, and calls for all manner of reform. Nonetheless, impressive progress has been made during the years since the release of *To Touch the Future* in raising the level of awareness and encouraging some states, systems, and individual institutions to take the first steps toward better teacher preparation.

To Touch the Future has provided a national platform for improving teacher education, but the real work always has been and will continue to be primarily at the state, system, and campus levels. That work will progress slowly, state by state, system by system, college by college, but the experience of the last two years suggests that diligence, tenacity, and leadership can bring about positive change.

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This report was prepared by Charles Coffin, based on substantial contributions by Patricia A. Maloney and Wilmer Cody.

The original report, *To Touch the Future: Transforming the Way Teachers Are Taught,* is available for $15, plus $6.95 shipping and handling (10 or more copies are available for $10 each; 100 or more copies, for $5 each).

ACE Fulfillment Service
Department 191
Washington, DC 20055-0191
Phone: (301) 632-6757
Fax: (301) 843-0159

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